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60/436,785 27 December 2002 (27.12.2002) US
- (71) Applicant (*for all designated States except US*): **APPLIED RESEARCH SYSTEMS ARS HOLDING N.V.** [NL/NL]; Pietermaai 15, Curacao (AN).
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- (75) Inventors/Applicants (*for US only*): **BIENKOWSKA, Jadwiga** [PL/US]; 45 Fayette St. Apt. 3, Cambridge, MA 02139 (US). **MCALLISTER, Gregg** [US/US]; 65 Chelsea St. Apt 407, Charlestown, MA 02129 (US).
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- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
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(54) Title: NOVEL NOTCH-LIKE POLYPEPTIDES

(57) Abstract: The present invention discloses open reading frames (ORFs) in human genome encoding for novel notch-like polypeptides, and reagents related thereto including variants, mutants and fragments of said polypeptides, as well as ligands and antagonists directed against them. The invention provides methods for identifying and making these molecules, for preparing pharmaceutical compositions containing them, and for using them in the diagnosis, prevention and treatment of diseases.

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C12N 15/62, 15/12, C12P 21/00, A61K 38/17
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(54) Title: NOTCH-LIKE POLYPEPTIDES

(57) Abstract: The present invention discloses open reading frames (ORFs) in human genome encoding for novel notch-like polypeptides, and reagents related thereto including variants, mutants and fragments of said polypeptides, as well as ligands and antagonists directed against them. The invention provides methods for identifying and making these molecules, for preparing pharmaceutical compositions containing them, and for using them in the diagnosis, prevention and treatment of diseases.

INTERNATIONAL SEARCH REPORT

International Application No.

03/50968

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K14/47 C12N15/62 C12N15/12 C12P21/00 A61K38/17

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	<p>EP 1 447 413 A (RES ASS FORBIOTECHNOLOGY) 18 August 2004 (2004-08-18)</p> <p>seq.id.203 -& DATABASE EMBL EMBL; 23 August 2004 (2004-08-23), XP002296518 retrieved from EBI accession no. CQ849734 Database accession no. CQ849734 abstract</p> <p>----- -/--</p>	<p>1-6,11, 13-23, 36,37, 39-41</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

15 September 2004

Date of mailing of the international search report

13. 10. 2004

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

EP 03/50968

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	US 2003/100005 A1 (DIAGANA THIERRY TIDIANE ET AL) 29 May 2003 (2003-05-29) page 25 - page 29 page 40 - page 44 page 32	1-6,11, 13-23, 36,37, 39-41
P,X	EP 1 347 046 A (RES ASS FOR BIOTECHNOLOGY) 24 September 2003 (2003-09-24) seq.id.no.907 -& DATABASE EMBL EMBL; 15 December 2003 (2003-12-15), XP002296519 retrieved from EBI accession no. AX833783 Database accession no. AX833783 abstract	1-6,11, 13-23, 36,37, 39-41
X	WO 02/072771 A (CURAGEN CORP) 19 September 2002 (2002-09-19) page 213 - page 217	1-6,11, 13-23, 36,37, 39-41
X	WO 00/58473 A (CURAGEN CORP) 5 October 2000 (2000-10-05) page 723	1-6,11, 13-23, 36,37, 39-41

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/50968

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 28, 31, 32, 35 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compounds
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claims 28, 31, 32, 35 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compounds

Continuation of Box I.2

Claims Nos.: 7-10, 12, 24-26 completely and 13,19, 23, 27-35, 38, 41 partly

Claims relating to antagonists (claim 7), ligands (claims 8-10) , peptide mimetics (claim 12) or to compounds which either enhance or decrease the expression of the polypeptides of claims 1-4 (claims 24-26) as well as claims referring thereto have not been searched since NONE of such compounds have been disclosed in technical (structural) terms in the application making a meaningful search impossible.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

International Application No

EP 03/50968

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